This listing of claims will replace all prior versions, listings, of claims in the application:

Listing of Claims:

1. (Currently amended) A composite sol gel formulation comprising:

a slurry having up to 90% by weight of inorganic powder dispersed in a colloidal sol gel solution prepared from metal organic precursors which comprises a metal alkoxide,

wherein said sol gel solution ~~has~~ contains an acid and said metal alkoxide in a molar ratio selected to cause said sol gel solution to form an expanded and ~~preferably~~ discontinuous gel network;

said ~~coating layer~~ slurry converting to a thick inorganic coating upon firing to a temperature of at least 300° C. "

2. The composite sol gel formulation of claim 1 wherein:

said colloidal sol gel is made by hot water peptization of said metal alkoxide with [[an]] said acid; and

said acid having an ionization constant of at least 1×10^{-5}, a noncomplexing anion with the metal species of the alkoxide~~; and,~~

~~the molar ratio of said acid to said metal alkoxide is selected to cause said gel network to be expanded and preferably discontinuous~~.

3. (currently amended) The composite sol gel ~~solution~~ formulation of claim 2 wherein said colloidal sol gel solution contains an inorganic acid and has an acid/metal alkoxide molar ratio greater than 0.10.

4. (currently amended) The composite sol gel ~~solution~~ formulation of claim 3 wherein: said acid/metal alkoxide molar ratio is from 0.15 to 1.0; and, said slurry has a thixotropic nature enabling its application to a substrate by shear thinning followed by coating on said substrate and subsequent re-gelling.

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gel is at least one member selected from the group consisting of alumina, titania, zirconia and silica.

13. (currently amended) The composite ~~sold~~ sol gel formulation of claim 1 wherein said colloidal sol gel solution has a pH of no greater than 3.8.

14. (original) The composite sol gel formulation of claim 1 wherein said colloidal sol gel solution has a pH of no greater than 3.6.

15. (original) The composite sol gel formulation of claim 1 wherein said colloidal sol gel solution has an alkoxide molar concentration of between 0.5 and 2.0.

16. (original) The composite sol gel formulation of claim 1 wherein said inorganic powder is a member selected from the group consisting of oxide, nitride, carbide, silicide, graphite and silver.

17. (currently amended) The composite sol gel formulation of claim 1 wherein said ~~ceramic~~ inorganic coating is at least 100 microns thick.

18. (original) The composite sol gel formulation of claim 1 wherein said formulation is capable of forming a ceramic coating of at least 1 mm thick by repeated coating and firing.

19. (original) The composite sol gel formulation of claim 1 wherein said inorganic powder has an average particle size of from 1 to 100 microns.

20. (original) The composite sol gel formulation of claim 1 wherein said inorganic powder has an average particle size of from 1 to 30 microns.

21- 41. (cancelled)